



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

**MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION**

11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599

www.miamidade.gov/economy

Forterra Roof Tile, Inc.
1340 SW 34 Ave
Deerfield Beach, FL 33442

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER -Product Control Section to be used in Miami-Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (in Miami-Dade County) and/or the AHJ (in areas other than Miami-Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Hanson Flat Tile including Slate, Chalet Shake, Southern Shake, and Victorian Slate

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA revises NOA No. 14-0416.05 and consists of pages 1 through 8.
The submitted documentation was reviewed by Gaspar J Rodriguez.



NOA No.: 15-1102.08
Expiration Date: 08/28/19
Approval Date: 12/10/15
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ROOFING ASSEMBLY APPROVAL

Category: Roofing
Sub-Category: Roofing Tiles
Material: Concrete

1. SCOPE

This approves a roofing system using **Hanson Flat Tile including Slate, Chalet Shake, Southern Shake, and Victorian Slate**, as manufactured by **Forterra Roof Tile, Inc.** as described in Section 2 of this Notice of Acceptance. For locations where the pressure requirements, as determined by applicable Building Code does not exceed the design pressure values obtained by calculations in compliance with RAS 127 using the values listed in section 4 herein. The attachment calculations shall be done as a moment based system.

2. PRODUCT DESCRIPTION

<u>Manufactured by Applicant</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>
Hanson Slate	L = 17.25" W = 13" H = 1.25" Thickness: 1.2" (Nose of tile)	TAS 112	Flat, interlocking, concrete tile equipped with two nail holes. For direct deck or battened nail-on, mortar or adhesive set applications.
Hanson Chalet Shake	L = 17.25" W = 13" H = 1.25" Thickness: 1.2" (Nose of tile)	TAS 112	Flat, interlocking, concrete tile equipped with two nail holes. For direct deck or battened nail-on, mortar or adhesive set applications.
Hanson Southern Shake	L = 17.25" W = 13" H = 1.25" Thickness: 1.2" (Nose of tile)	TAS 112	Flat, interlocking, concrete tile equipped with two nail holes. For direct deck or battened nail-on, mortar or adhesive set applications.
Hanson Victorian Slate	L = 17.25" W = 13" H = 1.25" Thickness: 1.2" (Nose of tile)	TAS 112	Flat, interlocking, concrete tile equipped with two nail holes. For direct deck or battened nail-on, mortar or adhesive set applications.
Trim Pieces	L= varies W = varies Varying thickness	TAS 112	Accessory trim, concrete roof pieces for use at hips, rakes, ridges and valley terminations. Manufactured for each tile profile.

2.1. MANUFACTURING LOCATION

1. Ft. Myers, FL



NOA No.: 15-1102.08
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2.2. EVIDENCE SUBMITTED

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>
IBA Consultants, Inc.	2381-265	TAS 112	Feb. 2008
Redland Technologies	7161-03	Static Uplift Testing	Dec. 1991
	Appendix III	TAS 102 & TAS 102(A)	
The Center for Applied Engineering, Inc.	94-084	Static Uplift Testing	May 1994
		TAS 101 (Mortar Set)	
The Center for Applied Engineering, Inc.	94-060A	Static Uplift Testing	March, 1994
		TAS 101 (Adhesive Set)	
The Center for Applied Engineering, Inc.	25-7094-2	Static Uplift Testing TAS 102 (4" Headlap, Nails, Direct Deck, New Construction)	Oct. 1994
The Center for Applied Engineering, Inc.	25-7094-8	Static Uplift Testing TAS 102 (4" Headlap, Nails, Battens)	Oct. 1994
The Center for Applied Engineering, Inc.	25-7094-5	Static Uplift Testing TAS 102 (4" Headlap, Nails, Direct Deck, Recover/Reroof)	Oct. 1994
The Center for Applied Engineering, Inc.	25-7183-6	Static Uplift Testing TAS 102 (2 Quik-Drive Screws, Direct Deck)	Feb. 1995
The Center for Applied Engineering, Inc.	25-7183-5	Static Uplift Testing TAS 102 (2 Quik-Drive Screws, Battens)	Feb. 1995
The Center for Applied Engineering, Inc.	25-7214-1	Static Uplift Testing TAS 102 (1 Quik-Drive Screw, Direct Deck)	March, 1995
The Center for Applied Engineering, Inc.	25-7214-5	Static Uplift Testing TAS 102 (1 Quik-Drive Screw, Battens)	March, 1995
Redland Technologies	7161-03	Wind Tunnel Testing	Dec. 1991
	Appendix II	TAS 108 (Nail-On)	
Redland Technologies	Letter Dated Aug. 1, 1994	Wind Tunnel Testing	Aug. 1994
		TAS 108 (Nail-On)	
Redland Technologies	P0631-01	Wind Tunnel Testing	July 1994
		TAS 108 (Mortar Set)	
Redland Technologies	P0402	Withdrawal Resistance Testing of screw vs. smooth shank nails	Sept. 1993
The Center for Applied Engineering, Inc.	Project No. 307025	Wind Driven Rain TAS 100	Oct. 1994
Nutting Engineering	Test #MDC-77		
	13343.1	Physical Properties TAS 112	Aug. 2006
Celotex Corporation Testing Service	520109-1	Static Uplift Testing TAS 101	Dec. 1998
	520111-4		
Celotex Corporation Testing Service	520191-1	Static Uplift Testing TAS 101	March 1999
Walker Engineering, Inc.	Calculations	Aerodynamic Multiplier	May 2006
Walker Engineering, Inc.	Calculations	Restoring Moments	May 2006
Walker Engineering, Inc.	Evaluation Calculations	25-7094	February 1996
Walker Engineering, Inc.	Evaluation Calculations	25-7496	April 1996
Walker Engineering, Inc.	Evaluation Calculations	25-7584	December 1996
		25-7804b-8	
		25-7804-4 & 5	
		25-7848-6	

2.2. EVIDENCE SUBMITTED

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>
Walker Engineering, Inc.	Evaluation Calculations	25-7183	March 1995
Walker Engineering, Inc.	Calculations	Two Patty Adhesive Set System	April 1999
Walker Engineering, Inc.	Calculations	Aerodynamic Multiplier Restoring Moments	07/25/14
American Test Lab of South Florida	RT0804.03-14	TAS 112	8/12/14
American Test Lab of South Florida	RT0602.05-14	TAS 112	8/12/14
American Test Lab of South Florida	RT0804.02-14	TAS 112	8/12/14
American Test Lab of South Florida	RT0804.01-14	TAS 112	8/12/14

3 LIMITATIONS

- 3.1 Fire classification is not part of this acceptance.
- 3.2 For mortar or adhesive set tile applications, a static field uplift test shall be performed in accordance with TAS 106.
- 3.3 Applicant shall retain the services of a Miami-Dade County Certified Laboratory to perform quarterly test in accordance with TAS 112, appendix 'A'. Such testing shall be submitted to the Miami-Dade Product Control office for review.
- 3.4 Minimum underlayment shall be in compliance with the applicable Roofing Applications Standards listed section 4.1 herein.
- 3.5 30/90 hot mopped underlayment applications may be installed perpendicular to the roof slope unless stated otherwise by the underlayment material manufacturers published literature.
- 3.6 This acceptance is for wood deck applications. Minimum deck requirements shall be in compliance with applicable building code.
- 3.7 All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

4 INSTALLATION

- 4.1 Hanson Flat Tile including Slate, Chalet Shake, Southern Shake, and Victorian Slate and its components shall be installed in strict compliance with Roofing Application Standard RAS 118, RAS 119, and RAS 120.
- 4.2 Data For Attachment Calculations

Table 1: Average Weight (W) and Dimensions (l x w)

Tile Profile	Weight-W (lbf)	Length-l (ft)	Width-w (ft)
Hanson Flat Tile including Slate, Chalet Shake, Southern Shake, and Victorian Slate	11.6	1.4375	1.08

Table 2: Aerodynamic Multipliers - λ (ft ³)		
Tile Profile	λ (ft ³) Batten Application	λ (ft ³) Direct Deck Application
Hanson Flat Tile including Slate, Chalet Shake, Southern Shake, and Victorian Slate	0.305	0.330

Table 3: Restoring Moments due to Gravity - Mg (ft-lbf)												
Tile Profile	2":12"		3":12"		4":12"		5":12"		6":12"		7":12" or greater	
Hanson Flat Tile including Slate, Chalet Shake, Southern Shake, and Victorian Slate	Battens	Direct Deck	Battens	Direct Deck	Battens	Direct Deck	Battens	Direct Deck	Battens	Direct Deck	Battens	Direct Deck
	7.60	8.32	7.52	8.24	7.41	8.12	7.26	7.95	7.09	7.76	6.89	7.55

Table 4: Attachment Resistance Expressed as a Moment - M _r (ft-lbf) for Mechanically Attached Systems				
Tile Profile	Fastener Type	Direct Deck (min 15/32" plywood)	Direct Deck (min. 19/32" plywood)	Battens
Hanson Flat Tile including Slate, Chalet Shake, Southern Shake, and Victorian Slate	2-10d Ring Shank Nails	30.9	38.1	17.2
	1-10d Smooth or Screw Shank Nail	7.3	9.8	4.9
	2-10d Smooth or Screw Shank Nails	14.0	18.8	7.4
	1 #8 Screw	30.8	30.8	18.2
	2 #8 Screw	51.7	51.7	24.4
	1-10d Smooth or Screw Shank Nail (Field Clip)	24.3	24.3	24.2
	1-10d Smooth or Screw Shank Nail (Eave Clip)	19.0	19.0	22.1
	2-10d Smooth or Screw Shank Nails (Field Clip)	35.5	35.5	34.8
	2-10d Smooth or Screw Shank Nails (Eave Clip)	31.9	31.9	32.2
	2-10d Ring Shank Nails ¹	50.3	65.5	48.3
1 Installation with a 4" tile headlap and fasteners are located a min. of 2½" from head of tile.				

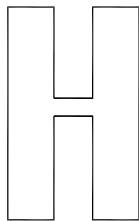
Table 5: Attachment Resistance Expressed as a Moment M_f (ft-lbf) for Two Patty Adhesive Set Systems		
Tile Profile	Tile Application	Minimum Attachment Resistance
Hanson Flat Tile including Slate, Chalet Shake, Southern Shake, and Victorian Slate	Adhesive	31.3 ³
2 See manufacturer's component approval for installation requirements.		
3 Flexible Products Company TileBond Average weight per patty 13.9 grams. 3M™ 2-Component Foam Roof Tile Adhesive AH-160. Average weight per patty 8 grams.		

Table 6: Attachment Resistance Expressed as a Moment - M_f (ft-lbf) for Single Patty Adhesive Set Systems		
Tile Profile	Tile Application	Minimum Attachment Resistance
Hanson Flat Tile including Slate, Chalet Shake, Southern Shake, and Victorian Slate	3M™ 2-Component Foam Roof Tile Adhesive AH-160	118.9 ⁴
	3M™ 2-Component Foam Roof Tile Adhesive AH-160	40.4 ⁵
4 Large paddy placement of 45 grams of 3M™ 2-Component Foam Roof Tile Adhesive AH-160.		
5 Medium paddy placement of 24 grams of 3M™ 2-Component Foam Roof Tile Adhesive AH-160.		

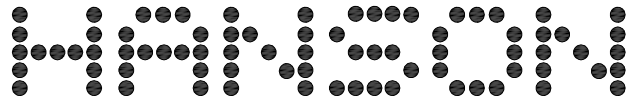
Table 7: Attachment Resistance Expressed as a Moment - M_f (ft-lbf) for Mortar Set Systems		
Tile Profile	Tile Application	Attachment Resistance
Hanson Flat Tile including Slate, Chalet Shake, Southern Shake, and Victorian Slate	Mortar Set ⁶	39.0
6 See specific mortar manufacturer's Notice of Acceptance		

5. LABELING

All tiles shall bear the imprint or identifiable marking of the manufacturer's name or logo (See Detail Below), or following statement: "Miami-Dade County Product Control Approved".



AND/OR



**HANSON FLAT TILE INCLUDING SLATE, CHALET SHAKE, SOUTHERN SHAKE, AND VICTORIAN SLATE
(LOCATED ON UNDERSIDE OF TILE)**



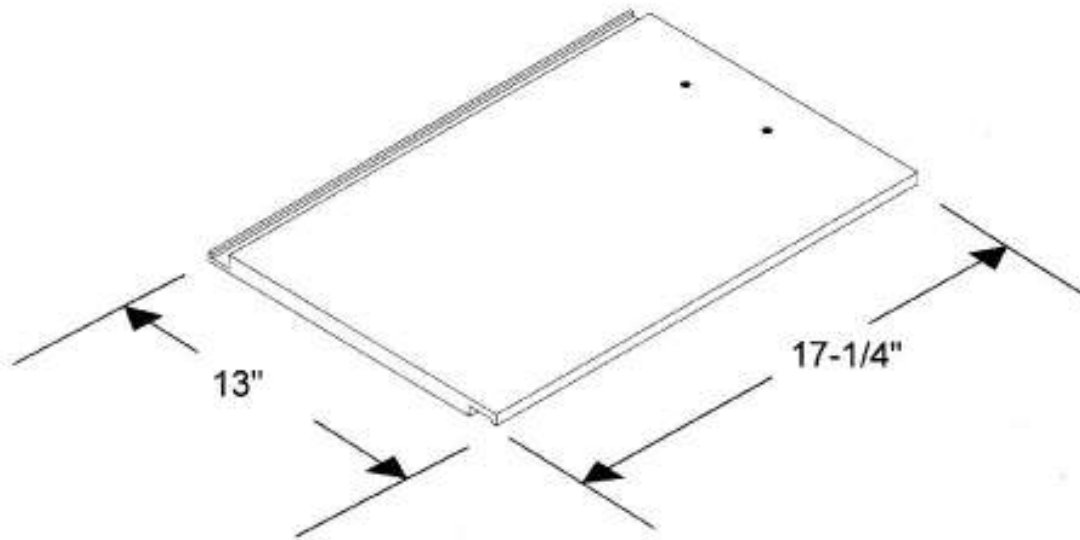
6. BUILDING PERMIT REQUIREMENTS:

6.1 Application for building permit shall be accompanied by copies of the following:

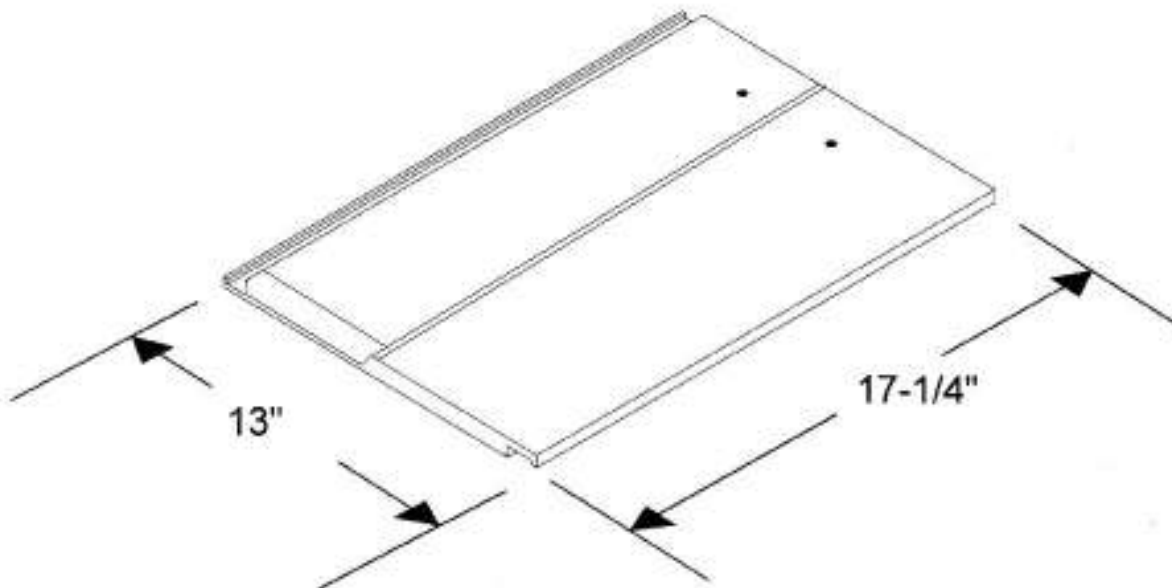
6.1.1 This Notice of Acceptance.

6.1.2 Any other documents required by Building Official or Applicable building code in order to properly evaluate the installation of this system.

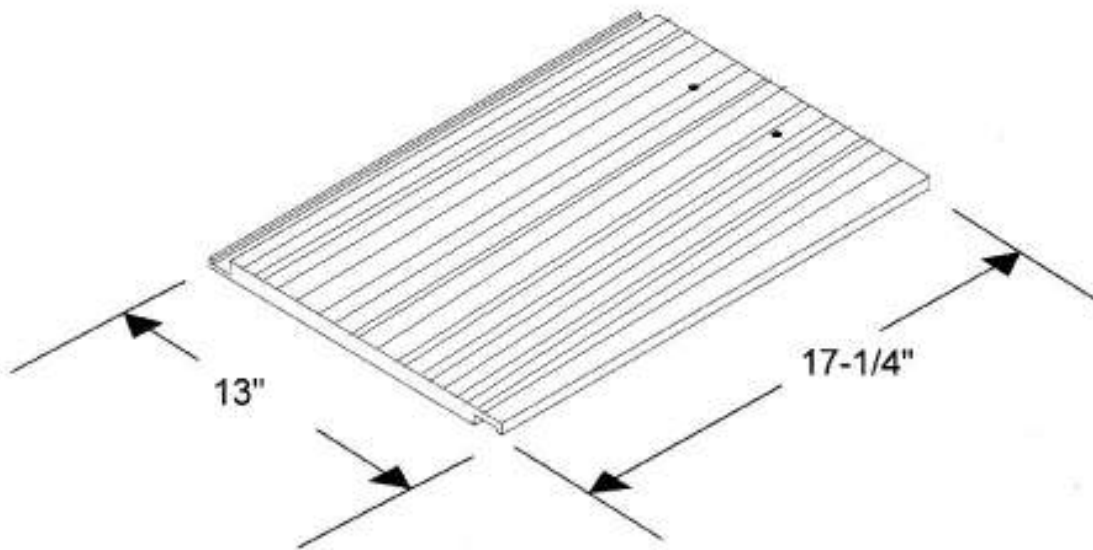
PROFILE DRAWINGS



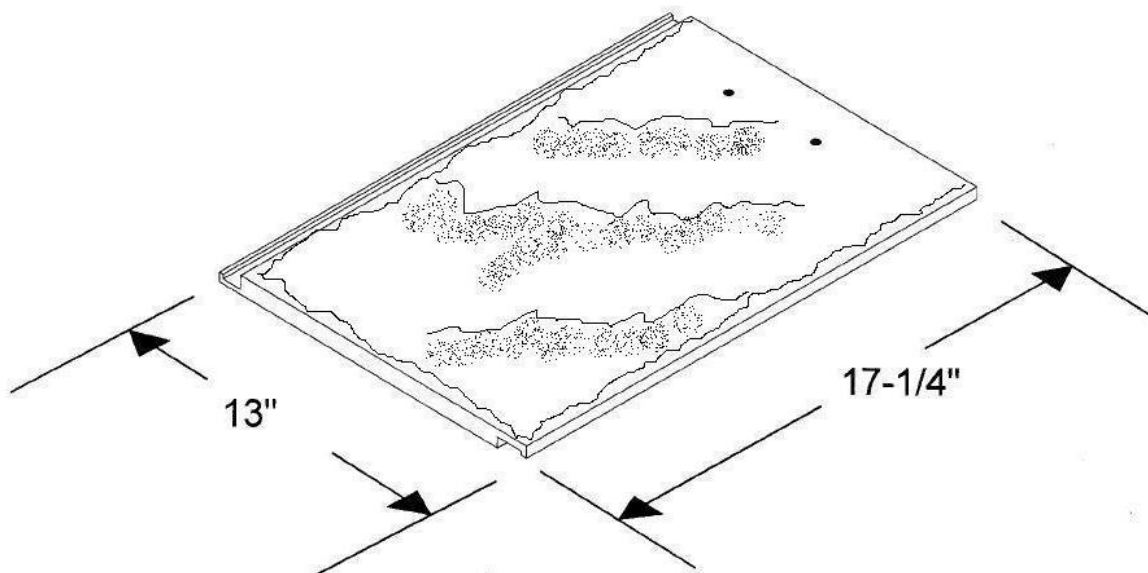
HANSON SLATE TILE



CHALET SHAKE TILE



SOUTHERN SHAKE



VICTORIAN SLATE

END OF THIS ACCEPTANCE